

WHAT IS CLAIMED IS:

1. A layered web sealing and severing head, comprising:
 - a knife having a first thermal conductivity;
 - a supporting base having a second, lower, thermal conductivity;
 - said supporting base extending, in a lengthwise direction of said knife, along opposite faces of said knife so as to partially envelop said knife such that said knife is immobily supported by said supporting base and protrudes from said supporting base.
2. The head of claim 1 wherein said knife is an electrical conductor and said supporting base is a dielectric.
3. The head of claim 2 further comprising a terminal at either end of said knife.
4. The head of claim 3 further comprising at least one electromotive force for coupling to each said terminal for establishing a baseline current through said knife and a momentary spike current through said knife.
5. The head of any one of claim 2 to claim 4 further comprising at least one electromotive force for coupling to either end of said knife for establishing a baseline current through said knife and a momentary spike current through said knife.
6. The head of any one of claim 1 to claim 5 further comprising means for maintaining said knife at a baseline temperature and for periodically, momentarily, heating said knife to a higher spike temperature such that said supporting base remains substantially at said baseline temperature.
7. The head of any one of claim 2 to claim 6 wherein said knife is fabricated of metal.
8. The head of any one of claim 1 to claim 7 wherein said knife is partially embedded in said supporting base.

9. The head of any one of claim 1 to claim 8 wherein said supporting base comprises two base halves that sandwich said knife therebetween.
10. The head of any one of claim 1 to claim 9 wherein said supporting base is fabricated of anodised aluminum.
11. The head of any one of claim 1 to claim 9 wherein said supporting base is fabricated of ceramic.
12. The head of any one of claim 1 to claim 11 wherein said supporting base tapers to a point where said knife protrudes from said supporting base.
13. The head of any one of claim 1 to claim 12 wherein said knife is a strip.
14. A sealing jaw assembly, comprising:
 - a first jaw with a backstop;
 - an opposed second jaw with a sealing head, said sealing head having:
 - a strip having a first thermal conductivity;
 - a supporting base extending along opposite faces of said strip so as to partially envelop said strip such that said strip is immobily supported by said supporting base and protrudes from said supporting base toward said backstop;
 - said supporting base having a second, lower, thermal conductivity.
15. The sealing jaw assembly of claim 14 wherein said strip is an electrical conductor and said supporting base is a dielectric.
16. The sealing jaw assembly of claim 15 further comprising at least one electromotive force for coupling to either end of said strip for establishing a baseline current through said strip and, when said strip abuts said backstop through a material to be sealed, a momentary spike current through said strip.
17. The sealing jaw assembly of any one of claim 14 to claim 16 further comprising means for reciprocating said first jaw and said second jaw toward and away from each other.

18. The sealing jaw assembly of any one of claim 14 to claim 17 wherein said supporting base tapers to a point where said strip protrudes from said supporting base.

19. A method of sealing and cutting a layered web, comprising:

heating a sealing head comprising a knife having a first thermal conductivity protruding from a supporting base having a second, lower, thermal conductivity, to a baseline temperature, said baseline temperature sufficient to seal layers of said web together;

pressing said sealing head against said web; and

spiking a temperature of said knife above said baseline temperature so as to sever said web by melting.

20. The method of claim 19 wherein said pressing comprises advancing said sealing head toward a backstop so that said head abuts said backstop through said web